

PARTICLE-BOUND HUMAN IMMUNODEFICIENCY VIRUS ENVELOPE
GLYCOPROTEINS AND RELATED COMPOSITIONS AND METHODS

5 Abstract of the Disclosure

10 This invention provides a first composition comprising a
pharmaceutically acceptable particle and a stable HIV-1 pre-
fusion envelope glycoprotein trimeric complex operably
affixed thereto. This invention further provides a second
composition comprising (a) a pharmaceutically acceptable
particle, (b) an antigen, and (c) an agent which is operably
affixed to the particle and is specifically bound to the
15 antigen, whereby the antigen is operably bound to the
particle. Finally, this invention provides related nucleic
acids, vectors, cells, compositions, production methods, and
prophylactic and therapeutic methods.